

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A file security system for restricting access to electronic files, said file security system comprising:

a key store configured to store a plurality of cryptographic key pairs, ~~each of~~ wherein the cryptographic key pairs ~~including~~ include a respective public key and a respective private key, at least one of the cryptographic key pairs pertaining to a predetermined time; and

an access manager, configured to ~~operatively connected~~ to said key store, configured to determine whether the private key of at least one of the cryptographic key pairs pertaining to the predetermined time is permitted to be provided to a requestor based on a current time,

wherein the access manager is configured to require that the requestor ~~requires~~ use the private key pertaining to the predetermined time to access an encrypted document key in a header of a secured electronic file, a data portion of the secured electronic file which was previously secured using the document key, and wherein the header includes the document key and access rules for the secured electronic file, the access rules configured to ~~for~~ further protecting the document key, and wherein the document key was previously encrypted by the public key of the at least one of the cryptographic key pairs pertaining to the predetermined time.

2. (Currently Amended) The file security system as recited in claim 1, wherein said access manager is configured to provide the private key of the at least one of the cryptographic key pairs pertaining to the predetermined time to the requestor if in response to determining that the predetermined time is less earlier than or equal to the current time.

3. (Currently Amended) The file security system as recited in claim 1, wherein the requestor is a client module that is configured to operatively connect ~~connects~~ to said access manager over a network.

4. (Currently amended) The file security system as recited in claim 1, wherein said file security system further comprises:

at least one client module configured to select the predetermined time and to secure the electronic file using the public key of the at least one of the cryptographic key pairs pertaining to the predetermined time, so as to provide a time-based access restriction to the electronic file.

5. (Previously Presented) The file security system as recited in claim 4, wherein said client module is further configured to unsecure the secured electronic file by acquiring the private key of the at least one of the cryptographic key pairs pertaining to the predetermined time from said key store, and then unsecure the secured electronic file using the private key pertaining to the predetermined time.

6. (Currently Amended) A method for restricting access to an electronic document, said method comprising:

identifying an electronic document to be secured, the electronic document having at least a data portion that contains data, and a header portion that contains access rules for the electronic document;

~~determining whether a time-based access key is already available for a predetermined time, otherwise generating a time-based access key for the predetermined time;~~

securing the data portion of the electronic document through use of a document key to produce a secured electronic document;

storing the document key in the header portion of the electronic document, wherein the access rules are provided for further protecting the document key;

securing the header portion of the electronic document through the use of ~~the a~~ a time-based access key; and

storing the secured electronic document.

7. (Currently Amended) The method as recited in claim 6, wherein securing the header portion comprises securing the header portion with a the time-based access key that has an access time associated therewith.

8. (Currently Amended) The method as recited in claim 7, further comprising:

storing the time-based access key at a remote key store, wherein the time-based access key is subsequently retrievable from the remote key store when the current time is equal to or ~~greater~~ later than the access time associated with the time-based access key.

9. (Previously Presented) The method as recited in claim 8, wherein said method is performed on a client machine that operatively receives the time-based access key from the remote key store over a network.

10. (Previously Presented) A method for restricting access to an electronic document, said method comprising:

identifying an electronic document to be secured, the electronic document having at least a data portion that contains data, and a header portion that contains access rules for the electronic document;

obtaining a document key;

encrypting the data portion of the electronic document using the document key to produce an encrypted data portion;

obtaining a time-based access key;

encrypting the document key using the time-based access key to produce an encrypted document key;

storing the encrypted document key in the header portion;

protecting the document key using the access rules;

forming a secured electronic document from at least the encrypted data portion and the header; and

storing the secured electronic document.

11. (Currently Amended) The method as recited in claim 10, wherein encrypting the document key comprises encrypting the document key using the time-based access key is a public time-based access key.

12. (Currently amended) The method as recited in claim 10, wherein encrypting the document key comprises encrypting the document key using the a time-based access key that has an access time associated therewith.

13. (Currently Amended) The method as recited in claim 12, wherein obtaining a the time-based access key comprises obtaining a time-based access key that is available from a remote key store when the current time is equal to or greater later than the access time associated with the time-based access key.

14. (Currently Amended) The method as recited in claim 13, wherein obtaining a time-based access key comprises obtaining a time-based access key that specifies an the access time is as a specified day of a year, and
further comprising obtaining a different unique the time-based access key is
unique for each for a plurality of different days of the year.

15. (Previously Presented) The method as recited in claim 13, wherein said method is performed on a client machine that operatively receives the time-based access key from the remote key store over a network.

16. (Currently Amended) A method for ~~accessing~~ providing a secured electronic document ~~by to~~ a requester, the secured electronic document having at least a header portion, having an encrypted document key and access rules, and an encrypted data portion, said method comprising:

obtaining a time-based access key;

decrypting the document key using the time-based access key, subject to protection by the access rules;

decrypting the encrypted data portion of the secured electronic document using the document key to produce a non-encrypted data portion; and

supplying the non-encrypted data portion to the requester.

17. (Currently Amended) The method as recited in claim 16, wherein obtaining a time-based access key comprises obtaining a ~~the~~ time-based access key that is identified by an indicator within a header portion of the secured electronic document.

18. (Currently Amended) The method as recited in claim 16, wherein obtaining a ~~the~~ time-based access key comprises obtaining is a private time-based access key.

19. (Currently Amended) The method as recited in claim 18, wherein ~~obtaining a~~ the time-based access key ~~is acquired~~ comprises acquiring the time-based access key from a server.

20. (Currently Amended) The method as recited in claim 16, wherein said obtaining of the time-based access key is dependent on ~~the~~ a current time.

21. (Currently Amended) The method as recited in claim 16, wherein ~~obtaining a~~ the time-based access key comprises obtaining a time-based access key that is associated with an access time, and wherein said obtaining of the time-based access key is permitted at a current time when the current time is ~~greater~~ later than or equal to the access time.

22. (Currently Amended) The method as recited in claim 21, wherein, ~~if permitted, during said obtaining step the~~ obtaining a time-based access key comprises obtaining the time-based access key ~~is obtained~~ from a server.

23-25. (Cancelled)

26. (Currently Amended) A non-transitory tangible computer-readable medium having instructions stored thereon, the instructions comprising:

computer program code ~~for identifying~~ configured to identify an electronic document to be secured, the electronic document having at least a data portion that contains data, and a header portion that contains access rules for the electronic document;

~~computer program code for determining whether a time-based access key is already available for a predetermined time, otherwise generating a time-based access key for the predetermined time;~~

computer program code ~~for securing~~ configured to secure the data portion of the electronic document through use of a document key to produce a secured electronic document;

computer program code ~~for storing~~ configured to store the document key in the header portion of the electronic document;

computer program code ~~for protecting~~ configured to protect the document key using the access rules;

computer program code ~~for securing~~ configured to secure the header portion of the electronic document through the use of the a time-based access key; and

computer program code ~~for storing~~ configured to store the secured electronic document.

27. (Currently Amended) The computer readable medium as recited in claim 26, wherein the time-based access key is configured to have has an access time associated therewith.

28. (Currently Amended) The computer readable medium as recited in claim 27, wherein said computer readable medium further comprises:

computer program code ~~for storing~~ configured to store the time-based access key at a remote key store, and

computer program code configured to retrieve ~~wherein~~ the time-based access key is ~~subsequently retrievable~~ from the remote key store at a ~~when the current time that is~~ greater later than or equal to the access time associated with the time-based access key.

29. (Currently Amended) A non-transitory tangible computer-readable medium having stored thereon computer-executable instructions that, ~~if executed in response to execution~~ by a computing device, cause the computing device to perform a method comprising:

identifying an electronic document to be secured, the electronic document having at least a data portion that contains data, and a header portion that contains access rules for the electronic document;

~~determining whether a time-based access key is already available for a predetermined time, otherwise generating a time-based access key for the predetermined time;~~

securing the data portion of the electronic document through use of a document key to produce a secured electronic document;

storing the document key in the header portion of the electronic document;

protecting the document key using the access rules;

securing the header portion of the electronic document through the use of the a
time-based access key; and
storing the secured electronic document.

30. (Currently Amended) A non-transitory tangible computer-readable medium having stored thereon computer-executable instructions that, ~~if-executed~~ in response to execution by a computing device, cause the computing device to perform a method comprising:

identify an electronic document to be secured, the electronic document having at least a data portion that contains data, and a header portion that contains access rules for the electronic document;

obtain a document key;

encrypt the data portion of the electronic document using the document key to produce an encrypted data portion;

obtain a time-based access key;

encrypt the document key using the time-based access key to produce an encrypted document key;

store the encrypted document key in the header portion;

protect the document key using the access rules;

form a secured electronic document from at least the encrypted data portion and the encrypted header; and

store the secured electronic document.

31. (Currently Amended) A non-transitory tangible computer-readable medium having stored thereon computer-executable instructions that, ~~if-executed in~~ response to execution by a computing device, cause the computing device to perform a method comprising:

obtain a time-based access key;

decrypt a document key in a header portion using the time-based access key, subject to protection by access rules in the header portion;

decrypt an encrypted data portion of the secured electronic document using the document key to produce a data portion; and

supply the data portion to the requestor.

32. (New) The method of claim 6, further comprising:

determining whether a time-based access key is already available for a predetermined time, otherwise generating a time-based access key for the predetermined time.

33. (New) The computer-readable medium of claim 26, further comprising:

computer program code configured to determine whether a time-based access key is already available for a predetermined time, otherwise generating a time-based access key for the predetermined time.

34. (New) The computer-readable medium of claim 29, further comprising:

determining whether a time-based access key is already available for a predetermined time, otherwise generating a time-based access key for the predetermined time.